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P.O. BOX 320850			LEONARD, MICHAEL L	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)			
	10/576,027	BURCKHARDT ET AL.			
Office Action Summary	Examiner	Art Unit			
	MICHAEL LEONARD	1796			
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address			
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA  - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.  - If NO period for reply is specified above, the maximum statutory period w.  - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 36(a). In no event, however, may a reply be tin vill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	N. nely filed the mailing date of this communication. D (35 U.S.C. § 133).			
Status					
Responsive to communication(s) filed on <u>07 Jules</u> This action is <b>FINAL</b> . 2b)⊠ This     Since this application is in condition for alloward closed in accordance with the practice under E	action is non-final. nce except for formal matters, pro				
Disposition of Claims					
4) ☐ Claim(s) 1-26 is/are pending in the application. 4a) Of the above claim(s) is/are withdraw 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-26 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/or Application Papers 9) ☐ The specification is objected to by the Examine 10) ☐ The drawing(s) filed on is/are: a) ☐ acceedable and applicant may not request that any objection to the orecastic requested to a specific to the content of the content	vn from consideration.  r election requirement.  r.  epted or b)  objected to by the I drawing(s) be held in abeyance. See	e 37 CFR 1.85(a).			
11)☐ The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PTO-152.			
Priority under 35 U.S.C. § 119					
<ul> <li>12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</li> <li>a) All b) Some * c) None of:</li> <li>1. Certified copies of the priority documents have been received.</li> <li>2. Certified copies of the priority documents have been received in Application No</li> <li>3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</li> <li>* See the attached detailed Office action for a list of the certified copies not received.</li> </ul>					
Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  3) Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 04/14/2006.	4)  Interview Summary Paper No(s)/Mail Da 5)  Notice of Informal P 6)  Other:	ate			

#### 3DETAILED ACTION

### Claim Rejections - 35 USC § 112

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear what is intended by "theoretically" of the instant claim 11.

Claim 11 recites Tradenames. It is unclear what exactly these tradenames are and the manufacturer is under no obligation to continue to manufacture anything under these tradenames nor to continue making the same thing as these tradenames. Any change to the tradename compound/composition renders the instant claims meaningless. Therefore the claims are indefinite. See MPEP 608.01(v).

Claim 25 provides for the use of a two-component polyurethane composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

#### 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 25 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under

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35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 9, 11-12, 15-16, 19, and 23-26 are rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent No. 4,853,454 to Merger et al.

As to claims 1 and 13-14, Merger discloses a polyurethane composition mixed with water (Column 4, lines 44-45) prepared from a polyurethane prepolymer made from polyisocyanates and polyols (Column 4, lines 55-57) and at least one polyaldimine of the formulas in Column 3 (lines 5-10). The polyaldimines are made from primary aliphatic, cycloaliphatic or polyoxyalkylene polyamines (Column 8, lines 1-42) and aldehydes of the formulas disclosed in column 7 (line 25) wherein R1 and R2, which may be the same or different, are branched or preferably linear alkly groups having from 1 to 6 carbon atoms, preferably methyl and R3 is a -OR6-, CO-OR6, or -O-CO-R7, wherein R6 is a branched or linear alkyl group having from 1 to 10 carbon atom or preferably a linear oxa-alkyl radical having 1 to 10 carbon atoms (Column 4, lines 1-7). These formulas meet the claimed formulas of instant claim 1.

As to claim 2, Merger discloses oxa-alkyl radicals used for R3 (Column 3, lines 65-69).

As to claims 3-5, Merger discloses an aldehyde of the second formula under column 3 (line 8) wherein R4 is the same as R3 (-OR6-, CO-OR6, or -O-CO-R7), which meets the claimed language of instant claims 3-5.

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As to claim 9, Merger discloses that R1 and R2 of the formulas under column 3 are preferably methyl groups (Column 3, line 62).

As to claim 11, Merger discloses as suitable preferred polyamines 1,6-hexamethylenediamine, IPDA, and di- and/or tri-functional polyoxyalkylene polyamines having molecular weights of from about 110 to 5000 and preferably from 200 to 500 (Column 8, lines 50-66).

As to claim 12, Merger discloses an NH2/CHO ratio of from 1:1 to 5 (Column 7, lines 31-32).

As to claim 15, Merger discloses polyether polyols are preferably used having a functionality of about 2 (Column 6, lines 25-26).

As to claim 16, Merger discloses a polyoxypropylene glycol and a polyoxypropylene-polyoxyethylene glycol that are used to from the polyurethane prepolymer (Column 10, lines 49-53).

As to claim 19, Merger discloses that the polyurethane prepolymer and the polyaldimine are mixed together is such quantities such that from about 0.2 to 1.3 equivalents, and more preferably of from 0.5 to 0.9 equivalents of polyaldimine are present per NCO group of the prepolymers (Column 10, lines 5-15).

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As to claims 23-26, Merger discloses preparing a polyurethane adhesive by reacting a polyurethane prepolymer (Example 3, Column 11), with a polyaldimine from Table 1 and curing in the presence of moisture (Column 4, lines 43-45).

# Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-8 and 10 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. U.S. Patent No. 4,853,454 to Merger et al., in view of U.S. Patent No. 3,935,274 to Jacobsen et al.

Merger fails to disclose the instantly claimed aldehyde of instant claims 6-8, and the method of making the aldehyde.

As to the claims, it would have been obvious to a person of ordinary in the art at the time of the invention to make the instantly claimed aldehydes and ultimately the polyaldimines of the instant claims because this is a known means for adding carboxylate to hydroxy functional aldehydes made from isobutylaldehyde and formaldehyde as taught by Jacobson (Abstract, Column 1, lines 5-43) and it is within the ability of the ordinary skilled artisan to make the above discussed aldehydes by appropriately changing the acid to one needed in the above discussed aldehydes.

Claims 17-18 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. U.S. Patent No. 4,853,454 to Merger et al., in view of U.S. Patent No. 5,116,931 to Reisch et al.

As to the claims, Merger is silent on the degree of unsaturation of the polyols.

Resich discloses double metal cyanide catalyzed polyols with molecular weight of about 1,000 to 6,000 and a degree of unsaturation of no greater than 0.04 milliequivalents per gram of polyol that are utilized in the preparation of polyurethane prepolymers (Column 2, lines 1-69).

At the time of the invention it would have been obvious to a person of ordinary skill in the art use DMC to catalyze the polyethers of the prepolymers disclosed above because this reduces es unsaturation, which gives less chain termination and therefore raises the molecular weights and the modulus and the attending properties related to modulus and molecular weight of the subsequent polyols and polyurethanes produced therefrom as disclosed by Resich (Column 1, lines 18-52).

Claims 20-22 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. U.S. Patent No. 4,853,454 to Merger et al. in view of U.S. Patent No. 5,194,488 to Piestert et al.

As to claims 20-22, Merger fails to disclose the method of mixing.

However, it would have been obvious to a person of ordinary skill in the art at the time of invention to apply the polyurethane system of Merger with the apparatus of the instant claims 20-22 because Piestert discloses using similar devices (Column 4, lines 30-69) to apply the adhesive and the applicant shows the instantly claimed device to be

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a commercially available apparatus for applying a two-part adhesive in their examples and the use of commercially available devices would give the known benefits of the known devices without the need to make said device from scratch.

# **Double Patenting**

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 11/822111 U.S. Patent No. 4,853,454 to Merger et al. and U.S. Patent No. 5,116,931 to Reisch et al. The copending claims encompass the instantly claimed inventions broadly and it would have been obvious to a person of ordinary skill in the art from the teachings of Merger and Reisch in relation to the polyaldimine and the polyols that react with the polyisocyanates to form the composition of the pending claims. Resich discloses double metal cyanide catalyzed polyols with

molecular weight of about 1,000 to 6,000 and a degree of unsaturation of no greater than 0.04 milliequivalents per gram of polyol that are utilized in the preparation of polyurethane prepolymers (Column 2, lines 1-69). At the time of the invention it would have been obvious to a person of ordinary skill in the art use DMC to catalyze the polyethers of the prepolymers disclosed above because this reduces es unsaturation, which gives less chain termination and therefore raises the molecular weights and the modulus and the attending properties related to modulus and molecular weight of the subsequent polyols and polyurethanes produced therefrom as disclosed by Resich (Column 1, lines 18-52).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of copending Application No. 12/000763 in view of U.S. Patent No. 4,853,454 to Merger et al. The copending claims encompass the instantly claimed inventions broadly. They fail to recite instantly claimed component B but the copending claims encompass using such compounds because Merger discloses such compounds and it would have been obvious to a person of ordinary skill in the art from the disclosure of Merger to ascertain the aldehyde compositions as disclosed by the copending application. Merger discloses a polyurethane composition mixed with water (Column 4, lines 44-45) prepared from a polyurethane prepolymer made from polyisocyanates and polyols (Column 4, lines 55-57) and at least one polyaldimine of the formulas in Column 3 (lines 5-10). The polyaldimines are made from primary aliphatic, cycloaliphatic or polyoxyalkylene

polyamines (Column 8, lines 1-42) and aldehydes of the formulas disclosed in column 7 (line 25) wherein R1 and R2, which may be the same or different, are branched or preferably linear alkly groups having from 1 to 6 carbon atoms, preferably methyl and R3 is a -OR6-, CO-OR6, or -O-CO-R7, wherein R6 is a branched or linear alkyl group having from 1 to 10 carbon atom or preferably a linear oxa-alkyl radical having 1 to 10 carbon atoms (Column 4, lines 1-7). These formulas meet the claimed formulas of instant claim 1. Merger further discloses oxa-alkyl radicals used for R3 (Column 3, lines 65-69) and aldehydes of the second formula under column 3 (line 8) wherein R4 is the same as R3 (-OR6-, CO-OR6, or -O-CO-R7), which meets the claimed language of instant claims 3-5. Merger further discloses that R1 and R2 of the formulas under column 3 are preferably methyl groups (Column 3, line 62).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 10/501074 in view of U.S. Patent U.S. Patent No. 4,853,454 to Merger et al. The copending claims encompass the instantly claimed inventions broadly. They fail to recite instantly claimed component B but the copending claims encompass using such compounds because Merger discloses such compounds and it would have been obvious to a person of ordinary skill in the art from the disclosure of Merger to ascertain the aldehyde compositions as disclosed by the copending application. Merger discloses a polyurethane composition mixed with water (Column 4, lines 44-45) prepared from a polyurethane prepolymer made from polyisocyanates and

polyols (Column 4, lines 55-57) and at least one polyaldimine of the formulas in Column 3 (lines 5-10). The polyaldimines are made from primary aliphatic, cycloaliphatic or polyoxyalkylene polyamines (Column 8, lines 1-42) and aldehydes of the formulas disclosed in column 7 (line 25) wherein R1 and R2, which may be the same or different, are branched or preferably linear alkly groups having from 1 to 6 carbon atoms, preferably methyl and R3 is a -OR6-, CO-OR6, or -O-CO-R7, wherein R6 is a branched or linear alkyl group having from 1 to 10 carbon atom or preferably a linear oxa-alkyl radical having 1 to 10 carbon atoms (Column 4, lines 1-7). These formulas meet the claimed formulas of instant claim 1. Merger further discloses oxa-alkyl radicals used for R3 (Column 3, lines 65-69) and aldehydes of the second formula under column 3 (line 8) wherein R4 is the same as R3 (-OR6-, CO-OR6, or -O-CO-R7), which meets the claimed language of instant claims 3-5. Merger further discloses that R1 and R2 of the formulas under column 3 are preferably methyl groups (Column 3, line 62).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/501078 in view of U.S. Patent No. 4,853,454 to Merger et al., and U.S. Patent No. 5,116,931 to Reisch et al. The copending claims encompass the instantly claimed inventions broadly and it would have been obvious to a person of ordinary skill in the art from the teachings of Merger and Reisch in relation to the polyaldimine and the polyols that react with the polyisocyanates to form the composition

of the pending claims. Resich discloses double metal cyanide catalyzed polyols with molecular weight of about 1,000 to 6,000 and a degree of unsaturation of no greater than 0.04 milliequivalents per gram of polyol that are utilized in the preparation of polyurethane prepolymers (Column 2, lines 1-69). At the time of the invention it would have been obvious to a person of ordinary skill in the art use DMC to catalyze the polyethers of the prepolymers disclosed above because this reduces unsaturation, which gives less chain termination and therefore raises the molecular weights and the modulus and the attending properties related to modulus and molecular weight of the subsequent polyols and polyurethanes produced therefrom as disclosed by Resich (Column 1, lines 18-52).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of copending Application No. 10522412 in view of U.S. Patent No. 4,853,454 to Merger et al. The copending claims encompass the instantly claimed inventions broadly. The copending claims encompass the instantly claimed inventions broadly. They fail to recite instantly claimed component B but the copending claims encompass using such compounds because Merger discloses such compounds and it would have been obvious to a person of ordinary skill in the art from the disclosure of Merger to ascertain the aldehyde compositions as disclosed by the copending application. Merger discloses a polyurethane composition mixed with water (Column 4, lines 44-45) prepared from a polyurethane prepolymer made from polyisocyanates and polyols (Column 4, lines 55-

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57) and at least one polyaldimine of the formulas in Column 3 (lines 5-10). The polyaldimines are made from primary aliphatic, cycloaliphatic or polyoxyalkylene polyamines (Column 8, lines 1-42) and aldehydes of the formulas disclosed in column 7 (line 25) wherein R1 and R2, which may be the same or different, are branched or preferably linear alkly groups having from 1 to 6 carbon atoms, preferably methyl and R3 is a -OR6-, CO-OR6, or -O-CO-R7, wherein R6 is a branched or linear alkyl group having from 1 to 10 carbon atom or preferably a linear oxa-alkyl radical having 1 to 10 carbon atoms (Column 4, lines 1-7). These formulas meet the claimed formulas of instant claim 1. Merger further discloses oxa-alkyl radicals used for R3 (Column 3, lines 65-69) and aldehydes of the second formula under column 3 (line 8) wherein R4 is the same as R3 (-OR6-, CO-OR6, or -O-CO-R7), which meets the claimed language of instant claims 3-5. Merger further discloses that R1 and R2 of the formulas under column 3 are preferably methyl groups (Column 3, line 62).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 11/470588 U.S. Patent No. 4,853,454 to Merger et al. The copending claims encompass the instantly claimed inventions broadly. They fail to recite instantly claimed component B but the copending claims encompass using such compounds because Merger discloses such compounds and it would have been obvious to a person of ordinary skill in the art from the disclosure of Merger to ascertain the aldehyde compositions as disclosed by the copending application. Merger discloses

a polyurethane composition mixed with water (Column 4, lines 44-45) prepared from a polyurethane prepolymer made from polyisocyanates and polyols (Column 4, lines 55-57) and at least one polyaldimine of the formulas in Column 3 (lines 5-10). The polyaldimines are made from primary aliphatic, cycloaliphatic or polyoxyalkylene polyamines (Column 8, lines 1-42) and aldehydes of the formulas disclosed in column 7 (line 25) wherein R1 and R2, which may be the same or different, are branched or preferably linear alkly groups having from 1 to 6 carbon atoms, preferably methyl and R3 is a -OR6-, CO-OR6, or -O-CO-R7, wherein R6 is a branched or linear alkyl group having from 1 to 10 carbon atom or preferably a linear oxa-alkyl radical having 1 to 10 carbon atoms (Column 4, lines 1-7). These formulas meet the claimed formulas of instant claim 1. Merger further discloses oxa-alkyl radicals used for R3 (Column 3, lines 65-69) and aldehydes of the second formula under column 3 (line 8) wherein R4 is the same as R3 (-OR6-, CO-OR6, or -O-CO-R7), which meets the claimed language of instant claims 3-5. Merger further discloses that R1 and R2 of the formulas under column 3 are preferably methyl groups (Column 3, line 62).

Claims 1-26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of copending Application No. 12/056043 in view of U.S. Patent No. 4,853,454 to Merger et al. The copending claims encompass the instantly claimed inventions broadly. They fail to recite instantly claimed component B but the copending claims encompass using such compounds because Merger discloses such compounds and it would have been

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obvious to a person of ordinary skill in the art from the disclosure of Merger to ascertain the aldehyde compositions as disclosed by the copending application. Merger discloses a polyurethane composition mixed with water (Column 4, lines 44-45) prepared from a polyurethane prepolymer made from polyisocyanates and polyols (Column 4, lines 55-57) and at least one polyaldimine of the formulas in Column 3 (lines 5-10). The polyaldimines are made from primary aliphatic, cycloaliphatic or polyoxyalkylene polyamines (Column 8, lines 1-42) and aldehydes of the formulas disclosed in column 7 (line 25) wherein R1 and R2, which may be the same or different, are branched or preferably linear alkly groups having from 1 to 6 carbon atoms, preferably methyl and R3 is a -OR6-, CO-OR6, or -O-CO-R7, wherein R6 is a branched or linear alkyl group having from 1 to 10 carbon atom or preferably a linear oxa-alkyl radical having 1 to 10 carbon atoms (Column 4, lines 1-7). These formulas meet the claimed formulas of instant claim 1. Merger further discloses oxa-alkyl radicals used for R3 (Column 3, lines 65-69) and aldehydes of the second formula under column 3 (line 8) wherein R4 is the same as R3 (-OR6-, CO-OR6, or -O-CO-R7), which meets the claimed language of instant claims 3-5. Merger further discloses that R1 and R2 of the formulas under column 3 are preferably methyl groups (Column 3, line 62).

This is a <u>provisional</u> obviousness-type double patenting rejection.

### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 8:00-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/ Examiner, Art Unit 1796

/Randy Gulakowski/ Supervisory Patent Examiner, Art Unit 1796